



# PATENT SPECIFICATION

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## COMPLETE SPECIFICATION.

### Improvements in and relating to Sheet or Strip Material for Packing, Covering, Decoration and similar purposes.

We, WOLFF & Co. KOMMANDIT-GESELLSCHAFT AUF AKTIEN, of Langestrasse 35, Walsrode, Germany, a body corporate organised under the Laws of Germany, 5 EMIL CZAPEK, of Parkstrasse 80, Bomlitz, near Walsrode, Germany, a citizen of the Republic of Czechoslovakia, and RICHARD WEINGAND, of Hauptstrasse 80, Bomlitz, near Walsrode, Germany, a 10 German citizen, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

15 The subject-matter of the present invention is a sheet- or strip-like product of any desired width and length for packing; covering, decoration or ornamentation and similar purposes. Such sheets or strips 20 have hitherto been manufactured from cellulose hydrate, and in particular from viscose films which are known under the trade names of "Transparit" or "Cellophane" since these materials are particularly suitable for such purposes owing to their great flexibility, the ease with which they can be printed on and coloured and their considerable resistance to being creased. 25 30 An object of the present invention is to increase the mechanical strength of these sheet- or strip-like cellulose products and to produce a strengthened sheet or foil which is insoluble in water whereby 35 their usefulness is extended.

To this end, according to the invention, a self-sustaining sheet or film of cellulose regenerated from aqueous cellulose solutions is stuck by means of a water-insoluble adhesive to one or more self-sustaining sheets or strengthening layers of the same or another material so as to form a compound body.

The strengthening layers may consist 45 either again of cellulose or of another material, for example, paper, textile fabric, metal foil, ramie material, and the sheet or film of cellulose may be stuck to one or to both sides of the strengthening layer.

In order to carry out the invention, for example, a band or strip of ramie material is coated on one or both sides

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with a water-insoluble adhesive, for example, gelatine or albumin, and a cellulose sheet or film regenerated from an aqueous cellulose solution is applied thereto. A compound foil is thereby formed which has great resistance to tearing and creasing and also possesses a beautifully bright appearance and it is likewise simple and cheap to manufacture. By using coloured cellulose foils or sheets for forming the coating on one or both sides of the ramie strip it can be produced in any desired colours. The ramie strip may be coloured, and colourless, transparent cellulose sheets may be stuck to it or the complete compound foil or sheet may be subsequently coloured. The adhesion of the cellulose sheet to the ramie strip to which the water-insoluble adhesive has been applied can be assisted and accelerated by the application of pressure. Further a coloured or non-coloured pictorial or design representation can be applied to the cellulose coating or to the ramie strip if, for example, the compound body is to be employed for advertising purposes. Also several compound strips consisting of ramie material of the same or different colours may be interwoven or intertwined.

Instead of ramie material, other suitable material, for example, textile fabric or paper can be employed for strengthening purposes, the cellulose sheet or strip being stuck thereto by means of a water-insoluble adhesive in a similar manner to form a foil or strip-like compound body. In most cases the textile fabric or the paper, for example thin linen or silk paper, will be employed as the inner layer similarly to the ramie strip previously described, between two outer sheets or strips of cellulose. However a cellulose sheet or strip may be provided only on one side, or several textile or paper strips and several cellulose layers may follow one another alternately.

Foil- or strip-like products having 100 particularly beautiful colour and lustre effects and having at the same time suitable mechanical strength are produced if two or more thin layers of metal and cellulose regenerated from aqueous cellu- 105

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lose solutions are stuck together to form a compound body. The metal foil, for example tin foil, can be provided in a similar manner to the ramie material previously described, on one or both sides with a sheet of cellulose, for example coloured or colourless viscose, and impressions, printing or pictures can be applied to the metal foil or to the cellulose sheet. When there are more than three layers a metal layer and a cellulose layer preferably follow one another alternately.

Owing to the employment of an adhesive which is insoluble in water the compound foils produced in accordance with the invention have the property of being insoluble in water as is desirable and necessary for many purposes for which they are employed.

It is to be understood that the subject matter claimed in our prior specifications No. 309,019 and 304,722 is excluded from the scope of the claims appended hereto.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:

1. A compound foil or strip-like product of any desired width and length for packing, covering, ornamental and similar purposes characterised by the feature that a self-sustaining sheet or film of cellulose

regenerated from aqueous cellulose solutions is stuck by means of a water-insoluble adhesive to one or more self-sustaining sheets of the same or another material so as to form a compound sheet.

2. A compound foil or strip-like product in accordance with claim 1, characterised by a self-sustaining sheet or film of cellulose regenerated from aqueous cellulose solutions being stuck by means of a water-insoluble adhesive to one or both sides of a sheet or strip of ramie fabric.

3. A compound foil or strip-like product in accordance with claim 1 characterised by the feature that some or all of the sheets of the compound body are differently coloured.

4. A compound foil or strip-like product according to claim 1, characterised by the feature that one or more sheets of the compound body are provided with pictorial or design representations.

5. A compound strip or foil substantially as described.

Dated this 17th day of January, 1929.

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